

## **MATERIALS AND GAS CHEMISTRIES FOR PROCESSING SYSTEMS**

### **ABSTRACT**

A plasma processing system for processing a substrate, is disclosed. The  
5 plasma processing system includes a single chamber, substantially azimuthally  
symmetric plasma processing chamber within which a plasma is both ignited and  
sustained for the processing. The plasma processing chamber has no separate plasma  
generation chamber. The plasma processing chamber has an upper end and a lower  
end. The plasma processing chamber includes a material that does not substantially  
10 react with the reactive gas chemistries that are delivered into the plasma processing  
chamber. In addition, the reactant gases that are flown into the plasma processing  
chamber are disclosed.